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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,238	12/07/2001	Miriam G. Blatt	03226.073001;P5521	5843

32615 7590 07/25/2005

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EXAMINER	
STEVENS, THOMAS H	

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/010,238	BLATT ET AL.	
	Examiner	Art Unit	
	Thomas H. Stevens	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-13 were examined.

Section I: Response to Applicants' Arguments (1st Office Action)

35 USC 102

2. Applicants are thanked for addressing this issue. Rejection is withdrawn; however, new art was discovered.

Section II: Non-Final Rejection (2nd Office Action)

Claim Rejections - 35 USC § 103

3. factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-13 are rejected under 35 U.S.C. 103 (a) as obvious by Khouja et al., (U.S. Patent 5,696,694 (1997)), in view of Bobba et al., "IC Power Distribution Challenges" (IEEE January 1999)). Khouja et al., teaches a method of computing power dissipated by digital circuits using information at the gate library level (abstract), with the ability to generate a power summary report (column 40, lines 1-3 with table); but doesn't teach power versus performance trade offs. Bobba et al. teaches delivering time-varying current with reduced nominal supply voltage variation for performance versus power trade-offs (abstract).

At the time of invention, it would have been obvious to one of ordinary skill in the art to Khouja by way of Bobba to have a post-layout verification of the supply voltage variations (Bubba: pg. 643, right column, 3rd paragraph) and to find the trade-offs of performance versus power for reducing the current and power requirements (Bubba: pg. 643, abstract).

Claim 1. A method for analyzing a power modeling(Bubba: pg. 643, right column, 2nd paragraph, lines 10-13) simulation,(Bubba: pg. 647, section 4, lines 1-5)comprising: receiving a plurality of values of power data from a power modeling simulator; generating summary information (Khouja: columns 40-41) relating to single cycle behavior of the power data wherein the power data and is associated with a specific cycle in the power modeling simulation (Bubba: pg. 647, section 4, lines 1-5 with pg. 647, right column, 4th paragraph); and analyzing the power modeling simulation using the summary information (Khouja: columns 40-41).

Claim 2. The method of claim 1,(Bubba: pg. 643, right column, 2nd paragraph, lines 10-13; pg. 647, section 4, lines 1-5 with pg. 647, right column, 4th paragraph) wherein generating summary information (Khouja: columns 40-41) comprises calculating a value of a single-cycle derivative (Bubba: pg. 646, left column, 3rd paragraph to right column first paragraph), wherein the single-cycle derivative is a derivative of two particular power data in a set of successive cycles.

Claim 3. The method of claim 2,(Bubba: pg. 643, right column, 2nd paragraph, lines 10-13; pg. 647, section 4, lines 1-5 with pg. 647, right column, 4th paragraph; pg. 646, left column, 3rd paragraph to right column first paragraph) wherein the single-cycle derivative is a peak single-cycle derivative (Inherent to any circuit analysis program: pg.647, section 4, 1st paragraph).

Claim 4. The method of claim 1,(Bubba: pg. 643, right column, 2nd paragraph, lines 10-13; pg. 647, section 4, lines 1-5 with pg. 647, right column, 4th paragraph; pg. 646, left column, 3rd paragraph to right column first paragraph) wherein generating summary information (Khouja: columns 40-41) comprises: calculating absolute values of a peak value and a lowest value of the power data (Inherent to any circuit analysis program: pg.647, section 4, 1st paragraph).

Claim 5. A method of analyzing power modeling simulation,(Bubba: pg.647, section 4, 1st paragraph) comprising: receiving a plurality of values of power data from a power

modeling simulator; generating summary information (Khouja: columns 40-41) relating to multiple cycle behavior of the power data(Bubba: pg. 647, section 4, lines 1-5 with pg. 647, right column, 4th paragraph) wherein the power data is associated with multiple cycles in the power model simulation; and analyzing the power modeling simulation using the summary information (Khouja: columns 40-41).

Claim 6. The method of claim 5,(Bubba: pg. 647, section 4, lines 1-5 with pg. 647, right column, 4th paragraph with section 5) wherein generating summary information (Khouja: columns 40-41) comprises: calculating a multiple-cycle power average, wherein the multi-cycle power average is an average of power data over a plurality of cycles (Inherent to any circuit analysis program: pg.647, section 4, 1st and 5th paragraphs)..

Claim 7. The method of claim 6,(Bubba: pg. 647, section 4, lines 1-5 with pg. 647, right column, 4th paragraph with section 5; Inherent to any circuit analysis program: pg.647, section 4, 1st and 5th paragraph) wherein a length of the plurality of cycles is fixed.

Claim 8. The method of claim 6,(Bubba: pg. 647, section 4, lines 1-5 with pg. 647, right column, 4th paragraph with section 5; Inherent to any circuit analysis program: pg.647, section 4, 1st and 5th paragraph) wherein generating comprises: summary information (Khouja: columns 40-41) further calculating a peak value of the multi-cycle power average (Inherent to any circuit analysis program: pg.647, section 4, 1st and 5th paragraphs).

Claim 9. The method of claim 5,(Bubba: pg. 647, section 4, lines 1-5 with pg. 647, right column, 4th paragraph with section 5) wherein generating summary information (Khouja: columns 40-41) comprises: calculating an average value of power data across a plurality of cycles (Inherent to any circuit analysis program: pg.647, section 4, 1st and 5th paragraphs).

Claim 10. A method of data analysis for a power modeling simulation(Bubba: pg. 647, section 4, 1st and 4th paragraphs with section 5 (same page)), comprising: receiving a plurality of values of power data from a power modeling simulator generating summary information (Khouja: columns 40-41) relating to a multi-cycle derivative of the power data (Bubba: pg. 647, section 4, paragraphs 4-6), wherein each power data is associated with at least one cycle in a simulation(Bubba: pg. 647, section 4, paragraphs 4-6) and wherein the multi-cycle derivative is a derivative of at least two particular power data in non-successive cycles (Inherent to the complexity of circuits: pg. 647, section 4, paragraphs 4-6); and analyzing the power modeling simulation using the summary information (Khouja: columns 40-41).

Claim 11. The method of claim 10,(Bubba: pg. 647, section 4, 1st and 4th paragraphs with section 5 (same page); pg. 647, section 4, paragraphs 4-6) further comprising: calculating a value of the multi-cycle derivative (Inherent to any circuit analysis program: pg.647, section 4, 1st and 5th paragraphs).

Claim 12. The method of claim 11,(Bubba: pg. 647, section 4, 1st and 4th paragraphs with section 5 (same page); pg. 647, section 4, paragraphs 4-6) further comprising: setting a threshold value as a reference value for determining the end of a current multi-cycle derivative calculating a single-cycle derivative calculating a derivative of a start value and an end value of associated power data in the current multi-cycle derivative(Bubba: pg. 646, left column, 3rd paragraph to right column first paragraph; pg. 647, section 4, 1st paragraph); calculating a ratio of the value of the single-cycle derivative over the value of a derivative of the start value and the end values of associated power data derivative when the direction of the current multi-cycle derivative changes (Inherent to Spice Software: pg. 647, section 4, 1st paragraph); and generating the value and its cycle of the multi-cycle derivative when the ratio becomes larger than the threshold value (Inherent to Spice Software: pg. 647, section 4, 1st paragraph), wherein the single-cycle derivative is a derivative of two particular power data in successive cycles.

Claim 13. The method of claim 11, (Bubba: pg. 647, section 4, 1st and 4th paragraphs with section 5 (same page); pg. 647, section 4, paragraphs 4-6) farther comprising: setting a threshold value that is a reference value for determining the end of a current multi-cycle derivative (Bubba: pg. 647, section 4, paragraphs 4-6); calculating a difference from a highest value (Inherent to Spice Software: pg. 647, section 4, 1st paragraph) to a current value (abstract) of the power data in the current multi-cycle

derivative (Bubba: pg. 647, section 4, paragraph 4; Inherent to Spice Software: pg. 647, section 4, 1st paragraph) and; calculating a difference from the highest value to a start value of the power data in the current multi-cycle derivative(Bubba: pg. 647, section 4, paragraph 6); calculating a ratio of the difference from the highest value to the current value of the power data over the difference from the highest value to the start value of the power data (Bubba: pg. 647, section 4, paragraph 4) in the current multi-cycle derivative when the direction of the current multi-cycle derivative changes (Inherent to Spice Software: pg. 647, section 4, 1st paragraph); and generating the end-value and its end-cycle of the current multi-cycle derivative when the ratio becomes larger than the threshold value (Bubba: pg. 647, section 4, paragraph 4; Inherent to Spice Software: pg. 647, section 4, 1st paragraph).

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm) or contact Supervisor Mr. Leo Picard at (571) 272-3749. Central Fax number is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

July 14, 2005

Paul L. Rodriguez 7/20/05

Primary Examiner
Art Unit 2125

THS